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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,671	12/22/2000	Clay Davidson	EWG-097 US	1646
23735	7590	09/08/2005	EXAMINER	
DIGIMARC CORPORATION 9405 SW GEMINI DRIVE BEAVERTON, OR 97008			EDWARDS, PATRICK L	
			ART UNIT	PAPER NUMBER
			2621	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/746,671	Applicant(s) DAVIDSON ET AL.	
	Examiner Patrick L. Edwards	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 3-21 and 23-35 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-21, 23, 25 and 26 is/are allowed.
- 6) ☒ Claim(s) 24 and 27-35 is/are rejected.
- 7) ☒ Claim(s) 24 and 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12-22-2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>02-07-2005</u> . | 6) <input type="checkbox"/> Other: _____  |

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### **DETAILED ACTION**

1. The response received on 07 February 2005 has been placed in the file and was considered by the examiner. An action on the merits follows.

#### ***Response to Arguments***

2. The arguments filed on 07 February 2005 have been fully considered. A response to these arguments is provided below.

### **Information Disclosure Statement**

#### **Summary of Argument:**

Applicant submitted an information disclosure statement with the 07 February 2005 correspondence.

#### **Examiner's Response:**

The examiner has fully considered the IDS. A signed and initialed copy is attached.

### **Prior Art Rejections**

#### **Summary of Argument:**

Applicant alleges that the Edgar reference (USPN 5,771,317) fails to disclose the limitations of the newly added claim 30 (see remarks, pg. 10).

#### **Examiner's Response:**

Applicant's arguments are directed to new claims which haven't been previously discussed. A discussion of these claims will be provided below.

#### ***Claim Objections***

3. Claim 24 is objected to because of the following informalities:

The claim recites "wherein a frequency response of said scanner decreasing at higher frequency values." This is grammatically incorrect. The examiner suggests replacing 'decreasing' with -decreases--.

Appropriate correction is required.

4. The follow quotations of 37 CFR § 1.75(a) provide the basis of objection:

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

5. Claim 34 is objected to under 37 CFR § 1.75(a) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery. Claim 34 adds a limitation that "[A]rtifacts [are] intentionally introduced by a user..." This claim depends from independent claim 30 which states that

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“[A]rtifacts [are] introduced by a transmission path...” These two limitations do not appear to be in accord. If the artifacts are introduced by a transmission path, then how can they also be intentionally introduced by a user?

*Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 30, 32-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Edgar (USPN 5,771,317).

As applied to claim 30, Edgar discloses receiving a media signal, wherein the media signal comprises artifacts introduced by a transmission path (Edgar col. 15 lines 15-18: The reference describes receiving a media signal, such as an image signal from a CCD scanner, which comprises artifacts (i.e. distortions) introduced by a transmission path (i.e. scanner).

Edgar further discloses modifying the media signal to reduce or alter artifacts, wherein said modifying provides a modified media signal (Edgar col. 15 lines 24-26: The reference describes modifying (i.e. distorting) the media signal in a way that complements the existing distortion (i.e. reducing artifacts). Since this media signal has been modified, it is a modified media signal.)

Edgar further discloses analyzing the modified media signals to obtain a machine-readable code embedded in the media signal or to identify a predetermined pattern arranged in the media signal (Edgar col. 16 lines 26-30: The reference describes providing an embedded absolute positioning code in the media signal).

As applied to claim 32, Edgar discloses that the transmission path comprises at least one of a printer, scanner and digital camera. This limitation was addressed in the claim 30 discussion above (“transmission path (i.e. scanner).”).

As applied to claim 33, Edgar discloses that the modifying comprises at least two different types of modification (Edgar col. 8 lines 12-15).

As applied to claim 35, Edgar discloses that the media signal comprises image data (Edgar col. 6 lines 27-42).

As applied to claim 34, Edgar discloses that the media signal comprises artifacts intentionally introduced by a user, and wherein said modifying reduces the artifacts intentionally introduced by a user (Edgar col. 20 line 58 – col. 21 line 67 (and elsewhere in the specification): The reference describes gamma correction (e.g. at col. 21 lines 25-35), and further describes that gamma correction removes artifacts intentionally introduced by a user (e.g. at col. 21 lines 58-59).

8. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (USPN 5,621,810).

Suzuku discloses scanning a physical document with a scanner to produce a first digital image, wherein a frequency response of said scanner decreasing at higher frequency values (Suzuki col. 3 lines 59-60: The reference discloses a scanner for scanning a physical document to produce a first digital image. The frequency response of the scanner

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decreases at higher frequency values because this is what scanners do. Indeed, this limitation is inherent because the frequency response of scanners always decreases at higher frequency values.).

Suzuki further discloses filtering said first digital image with a filter which compensates for the frequency of said scanner (Suzuki col. 12 line 33: The reference discloses CCD filtering a scanned digital image. Any and all CCD filtering operations compensate for the frequency of scanner in some way. This is what CCD filtering operations do.).

*Claim Rejections - 35 USC § 103*

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Edgar (USPN 5,771,317) and Ratnakar (USPN 6,566,688). The arguments as to the relevance of Edgar as applied above are incorporated herein.

As applied to claim 30, Edgar discloses receiving a media signal, wherein the media signal comprises artifacts introduced by a transmission path (Edgar col. 15 lines 15-18: The reference describes receiving a media signal, such as an image signal from a CCD scanner, which comprises artifacts (i.e. distortions) introduced by a transmission path (i.e. scanner).

Edgar further discloses modifying the media signal to reduce or alter artifacts, wherein said modifying provides a modified media signal (Edgar col. 15 lines 24-26: The reference describes modifying (i.e. distorting) the media signal in a way that complements the existing distortion (i.e. reducing artifacts). Since this media signal has been modified, it is a modified media signal.)

As applied to claims 30 and 31, Edgar discloses modifying a media signal, but fails to expressly disclose analyzing the modified media to obtain an embedded digital watermark. Ratnakar also discloses modifying a media signal (e.g. correcting for rotation or offset), and further discloses analyzing the modified media signal to obtain an embedded digital watermark (Ratnakar col. 9 line 50 – col. 11 line 11 in conjunction with Fig. 10).

It would have been obvious to one reasonably skilled in the art at the time of the invention to modify Ratnakar by adding the ability to compensate for image artifacts as taught by Edgar. Such a modification would have allowed for a watermark reading system that could compensate for artifacts introduced by a transmission path (in addition to compensating for rotation and offset, which Ratnakar teaches) and therefore not allow said artifacts to prevent the successful reading of an embedded watermark. This combination is aligned with the teachings of Ratnakar, who suggests that an information hiding technique should be robust enough to persist through ordinary or extraordinary

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modifications (Ratnakar col. 1 lines 55-60). The addition of Edgar to this system allows for corrections to such modifications and therefore decreases susceptibility and allows for a more robust system (Edgar col. 1 lines 53-65).

As applied to claim 32, Edgar discloses that the transmission path comprises at least one of a printer, scanner and digital camera. This limitation was addressed in the claim 30 discussion above ("transmission path (i.e. scanner).").

As applied to claim 33, Edgar discloses that the modifying comprises at least two different types of modification (Edgar col. 8 lines 12-15).

As applied to claim 34, Edgar discloses that the media signal comprises artifacts intentionally introduced by a user, and wherein said modifying reduces the artifacts intentionally introduced by a user (Edgar col. 20 line 58 – col. 21 line 67 (and elsewhere in the specification): The reference describes gamma correction (e.g. at col. 21 lines 25-35), and further describes that gamma correction removes artifacts intentionally introduced by a user (e.g. at col. 21 lines 58-59).

As applied to claim 35, Edgar discloses that the media signal comprises image data (Edgar col. 6 lines 27-42).

11. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Suzuki and applicant's admitted prior art

Suzuki discloses scanning a physical document with a scanner to produce a first digital image, wherein a frequency response of said scanner decreasing at higher frequency values (Suzuki col. 3 lines 59-60: The reference discloses a scanner for scanning a physical document to produce a first digital image. The frequency response of the scanner decreases at higher frequency values because this is what scanners do. Indeed, this limitation is inherent because the frequency response of scanners always decreases at higher frequency values.).

Suzuki further discloses a CCD filtering operation (Suzuki col. 12 line 33). The 102 rejection above explains that the remaining limitation of the claim is inherent in a CCD filtering operation. However, this inherency is not needed in view of the applicant's admitted prior art (applicant's specification paragraph [0063]: "The technique for designing a filter with a particular transfer function is well known"). Thus, It would have been obvious to one reasonably skilled in the art at the time of the invention to design a filter with a transfer function to correspond to a particular scanner as taught by applicant's admitted prior art.

12. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Suzuki and Fujimoto et al. (USPN 5,771,107)

Suzuki discloses scanning a physical document with a scanner to produce a first digital image, wherein a frequency response of said scanner decreasing at higher frequency values (Suzuki col. 3 lines 59-60: The reference discloses a scanner for scanning a physical document to produce a first digital image. The frequency response of the scanner decreases at higher frequency values because this is what scanners do. Indeed, this limitation is inherent because the frequency response of scanners always decreases at higher frequency values.).

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Suzuki further discloses a CCD filtering operation (Suzuki col. 12 line 33). The 102 rejection above explains that the remaining limitation of the claim is inherent in a CCD filtering operation. However, this inherency is not needed in view of Fujimoto—who discloses filtering a scanned image to counteract/compensate for scanner frequency (Fujimoto col. 2 lines 59-67). Thus, It would have been obvious to one reasonably skilled in the art at the time of the invention to one reasonably skilled in the art to design a filter to counteract characteristics of a CCD scanner.).

13. Claims 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Edgar (USPN 5,771,317) and Ratnakar (USPN 6,566,688). The arguments as to the relevance of Edgar as applied above are incorporated herein.

As applied to claim 27, Edgar discloses receiving image data from an optical scanner, wherein the image data corresponds to a physical object, and wherein the image data comprises adjustments reflecting user-dependent factors. (Edgar col. 20 line 58 – col. 21 line 67 (and elsewhere in the specification): The reference describes gamma correction (e.g. at col. 21 lines 25-35), and further describes that gamma values are user-dependent (e.g. at col. 21 lines 58-59).

Edgar further discloses adjusting the image data to counter-balance at least some of the adjustments attributable to the user-dependent factors, said adjusting yielding adjusted image data (Edgar col. 20 line 58 – col. 21 line 67 (and elsewhere in the specification): The reference describes gamma correction (e.g. at col. 21 lines 25-35), and further describes that gamma correction removes artifacts intentionally introduced by a user (e.g. at col. 21 lines 58-59).

As applied to claims 27 and 29, Edgar discloses adjusting an image, but fails to expressly disclose adjusting the image to obtain an embedded digital watermark. Ratnakar also discloses adjusting an image (e.g. correcting for rotation or offset), and further discloses analyzing the adjusted image to obtain an embedded digital watermark (Ratnakar col. 9 line 50 – col. 11 line 11 in conjunction with Fig. 10).

It would have been obvious to one reasonably skilled in the art at the time of the invention to modify Ratnakar by adding the ability to compensate for image artifacts as taught by Edgar. Such a modification would have allowed for a watermark reading system that could compensate for user-dependent factors (in addition to compensating for rotation and offset, which Ratnakar teaches) and therefore not allow said artifacts to prevent the successful reading of an embedded watermark. This combination is aligned with the teachings of Ratnakar, who suggests that an information hiding technique should be robust enough to persist through ordinary or extraordinary modifications (Ratnakar col. 1 lines 55-60). The addition of Edgar to this system allows for corrections to such modifications and therefore decreases susceptibility and allows for a more robust system (Edgar col. 1 lines 53-65).

14. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Edgar (USPN 5,771,317), Ratnakar (USPN 6,566,688), and further in view of well known prior art. The arguments as to the relevance of the aforesaid combination as applied above are incorporated herein.

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As applied to claim 28, which merely adds that the optical scanner is a digital camera, Edgar discloses a CCD array for a scanner, and it is well known that a digital camera comprises a CCD array (official notice). Thus, it would have been obvious to apply the system disclosed in the combination of Edgar and Ratnakar to a digital camera. This would have made for a more versatile system.

*Allowable Subject Matter*

15. Claims 3-21, 23, 25, and 26 are allowed.

*Conclusion*

16. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 07 February 2005 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

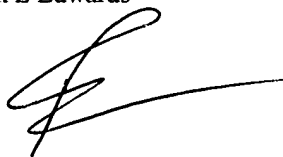
17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (571) 272-7390. The examiner can normally be reached on 8:30am - 5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe Mancuso can be reached on (571) 272-7695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

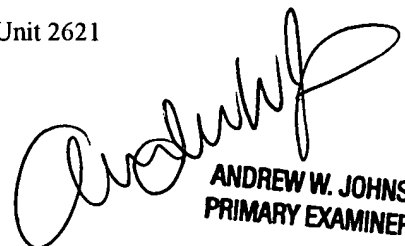
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Patrick L Edwards

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ANDREW W. JOHNS  
PRIMARY EXAMINER